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海相下三迭統空棘魚化石在我国广西的发現

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1963年5月，笔者收到一批采自广西凤山、东兰一带的动物化石。这批化石几乎全部是海生无脊椎动物，其中仅有一块是魚化石，属于空棘魚类，它与上述化石产于同一层位中，依据采集者的野外标签記載，这批化石产于下三迭統罗楼組。空棘魚类化石最早地史記录是产于泥盆紀地层，在白堊紀以后的地层中再沒有发現該类魚化石。因此，人們認为它們在中生代末期已絕灭了。1938年，在非洲东海岸发現了該类魚的現生代表——拉蒂迈魚(*Latimeria*)，才改变了对該类魚的認識。不过，这一分布很广的魚类化石，在亚洲还很少发現，仅在亚洲西部白堊紀地层中找到过。此次在我国南部三迭紀地层中发現的化石，不仅代表空棘魚化石在我国的首次发現，也表明这类魚在亚洲东部有过一定的发展和分布。这一发現在研究空棘魚的系統分类与地理分布上都有很大意义。

标本記述

总鰭魚目 Crossopterygii

空棘魚亚目 Coelacanthini

中华空棘魚属 *Sinicoelacanthus*, gen. nov.

属的特征：同属型种。

凤山中华空棘魚 *Sinocoelacanthus fengshanensis*, gen. et sp. nov.

(图版 I，图1—2)

标本：一不完整的尾部，保存有尾鰭的背叶、腹叶和中叶及少許鱗片。野外队編号：抗KI. 12a；标本登記号：V. 2895。

产地和层位：广西凤山抗东。下三迭統罗楼組。

特征：尾鰭大，背、腹叶鰭条数目多，且远端不膨大。中叶短小，不显著地突出。鱗片略呈椭圓形，有少許突脊。

标本描述：标本为尾部的末端部分，保存有尾鰭的背叶、腹叶及中叶。背叶的前部有些缺失，保存鰭条26根。鰭条长，远端殘缺，但由鰭形整体看，估計所缺不多。鰭条近端分节疏，节距长；远端分节密，由近及远节距逐漸变短。背叶鰭条自前向后排列間隔逐次加大，尤以临近中叶处更为显著，鰭条伸展方向与尾軸約成45°—40°夹角。尾鰭腹叶基端保存較好，只远端有所缺失，鰭条多达39根，分节密，节距短，各鰭条排列也較为紧密，伸展方向与尾鰭夹角也較小。

背、腹叶基前部保存的支持骨短小,近端膨大。尾柄窄,自尾鰭的背腹叶基中部向后越来越細,向后直接連接着中叶鰭条。中叶不十分突出,中叶前部尾柄上下側各有3根排列疏远,近于与尾軸垂直的鰭条。在其后的鰭条又呈一般延伸方向,变长,排列漸密,形成一小尾簇,即通常所称的附加尾鰭(Supplementary caudal fin)。广西标本的中叶末端虽有缺失,但从該魚的尾鰭中叶与背叶腹叶的比例来看,中叶相当短小。在这一标本可見到脊索痕迹貫达尾柄末端。尾柄的鱗片保存不佳,輪廓不清,略呈椭圓形,尖端向后;表面有少許短的突脊。

另在尾柄上及尾鰭腹叶前方处保存有不完整的大鱗片,略呈圓形,有密集而清晰的同心圓紋及放射紋(图版I,图2),可能属于身体前部的。

比較和討論:从广西这一标本的尾部特征,如鰭条远端不膨大,上无疣突或小刺,背、腹叶鰭条的排列形式等与空棘魚属(*Coelacanthus*)的有些近似。但由其尾鰭背、腹叶相当大,中叶短小,与空棘魚属者明显不同。在鰭条的分节部分很長,节距較短,与 *Laugia* 者有所相似,但后者的鰭条数目少,且背、腹叶鰭条的排列間隔一致,中叶細长而显著突出,可与广西标本区分。广西的标本,由其尾鰭大、鰭条数目多、中叶不显著突出等特征,与已知种属皆有不同,它代表一新空棘魚类。不过,由于标本只是尾部,其他如头部、身体以及其他各鰭的形态都不知道,不能与他属者比較。然就上述特征与空棘魚属有所相似,又代表該类魚化石在我国的初次发現,今命名为凤山中华空棘魚(*Sinocoelacanthus fengshanensis*, gen. et sp. nov.)該属特征的补充,尙有待更多材料的获得。

空棘魚类的发展历史,由已知記录看,当泥盆紀时它們生活在淡水及海水中。它們可能起源于淡水水域,泥盆紀时进入海域中(Schaeffer, 1953)。所知的石炭-二迭紀的代表皆发現于淡水沉积中(Moy-Thomas, 1937)。三迭紀的化石在海陆相沉积中皆有发現,說明中生代早期它們有一部分回到海水中,自此时以后,不論化石种属还是現生代表,皆是在海域中发現的。广西的标本是在海相地层中发現的,同层位中有大量菊石化石。

最后,对广西凤山地质队采集标本,付出辛勤劳动,把标本交与我們研究;周明鎮先生热心提供宝貴意見,在此一并致以謝意。

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A NEW COELACANTH FROM THE MARINE LOWER TRIASSIC OF N. W. KWANGSI, CHINA

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A fossil collection from K'angtung, Fengshan, Kwangsi contains a great number of more complete specimens of marine invertebrates, mostly ammonites. Among these specimens there is a piece of fish fossil. It is very imperfect, consisting only of the caudal portion. Since no Coelacanths have as yet been found in China, therefore the discovery of this kind of fish in the Lolou Triassic is of unusual interest.

DESCRIPTION OF SPECIMEN

Order Crossopterygii

Suborder Coelacanthini

Genus *Sinocoelacanthus*, gen. nov.

***Sinocoelacanthus fengshanensis*, gen. et sp. nov.**

(Pl. I, figs. 1—2)

Specimen: An incomplete specimen, displaying great part of caudal fin. Field No. KI.12a; Cat. No. V.2895 of IVPP.

Horizon and Locality: Lower Triassic. K'angtung, Fengshan District, Kwangsi Province.

Specific characters: Caudal fin large. Principal fin comprising more than 60 lepidotrichia dorsal and ventral. Supplementary fin fairly short and small.

Description: The caudal part comprises the dorsal, ventral and middle lobes. The exact number of lepidotrichia of dorsal lobe is not known, for the anterior part is lacking. The preserved portion consists of 26 lepidotrichia. Ventrally, they are 39 in number. The lepidotrichia are long, narrow and not expanded distally, and jointed for a fairly long distance distally. The joints are longer on proximate portion than those on distal. All of them are smooth throughout their length.

The dorsal and ventral lobes are not symmetrical in position. The origin of dorsal is perhaps more anterior than that of the ventral. The lepidotrichia of dorsal lobe are more widely spaced, than those of the ventral in which they are more crowded to one another. The notochord, running between the large dorsal and ventral lobes, extends into the middle lobe.

The middle lobe was imperfectly preserved, lacking the tip. On its dorsal and ventral sides there are several short, slender lepidotrichia and some longer ones around the tip of the middle lobe. The middle lobe is rather short, shorter than those in the other genera. It protudes only slightly beyond the posterior margin of the principal fin, and therefore is not prominent.

Scales of pedicle are in such a state of preservation that their outlines are difficult

to distinguish. They are longer than high and somewhat oval-shaped; and their surfaces are ornamented with a few low, short tubercles, disposed mainly in a rostro-caudal direction.

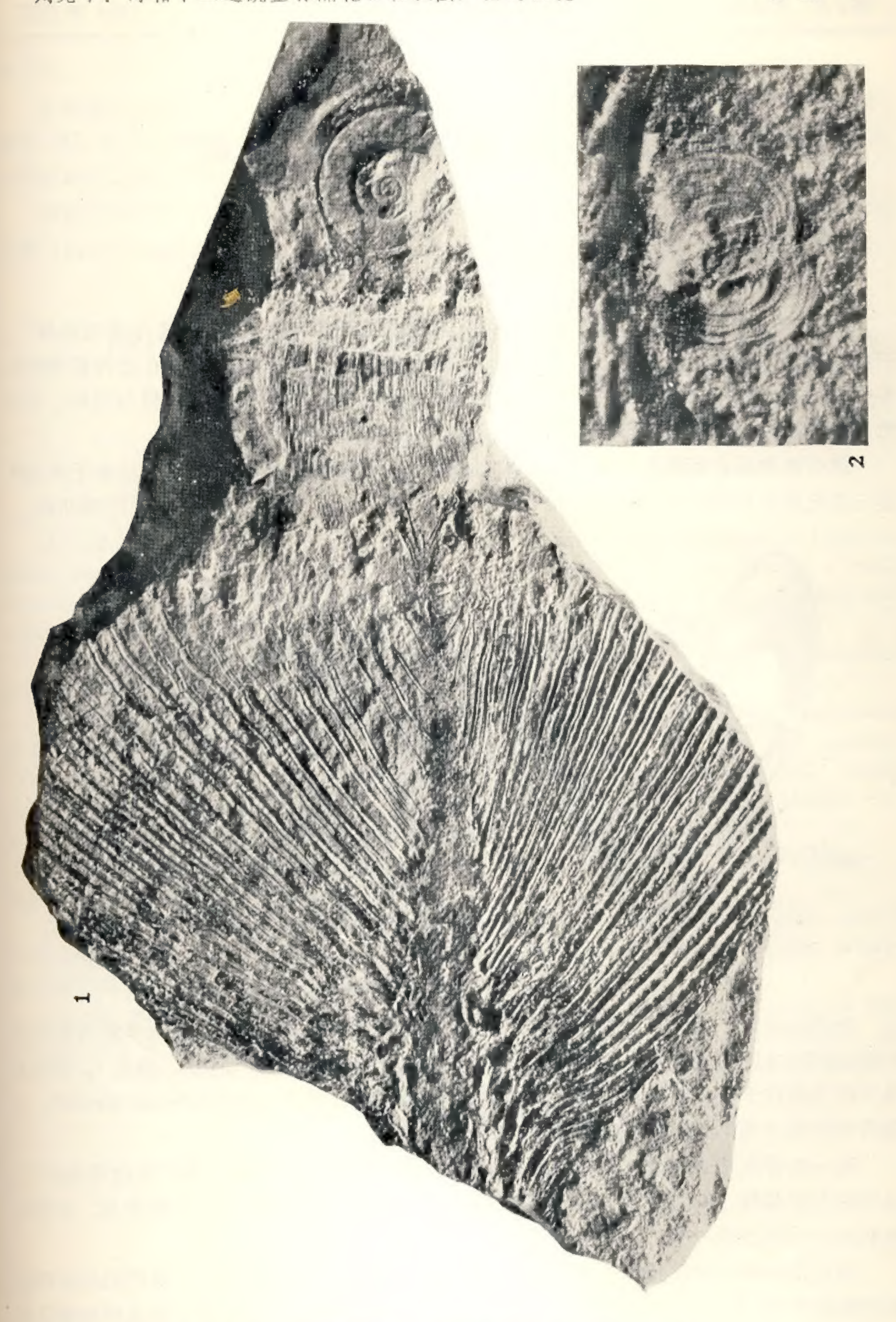
In addition, there are two detached scales found near the front margin of ventral lobe and on caudal pedicle. They are ornamented with fine circli and radiative striations. Whether they belong to this specimen, or not is not sure.

Remarks: The characters of the above described caudal fin resemble somewhat to those of *Coelacanthus,* but the large number of lepidotrichia in both dorsal and ventral lobes has never been recognized in any known coelacanthian genera. Its short supplementary caudal fin, and the shape and ornamentation of scales are also unique.

At present it is impossible to decide with certainty whether this specimen belongs to any of the known genera and a new generic name——*Sinocoelacanthus* is proposed.

The diagnosis of this new genus, *Sinocelacanthus,* which, of course, must be quite incomplete at present, is provisionally given as follows:

Caudal fin large, principal fin comprising numerous lepidotrichia dorsally and ventrally. Lepidotrichia of the dorsal and ventral not equally spaced, more sparsely arranged in the dorsal and compactly in the ventral lobe. Middle lobe short, not extending far backwards.



凤山中华空棘魚 (*Sinocoelacanthus fengshanensis*, gen. et sp. nov.)
1.不完整的尾部 (An imperfect caudal portion)，标本登記号：Cat. No. V. 2895，×1.5。
2.鱗片 (Imperfect detached scale)，×12。

著下弯。

在新疆已知的水龙兽（*L. hedini* 和 *L. broomi*）中，头骨上均有清楚的眼孔間横棱，額骨下凹，鼻孔位置靠后，眼孔較小。此外，上顎骨齿突均較向前伸。我們的标本則以无可否認的原始性区别于它們。

因此可以看出，这一标本所代表的是在新疆地区发現的第四个水龙兽种——楊氏水龙兽（*Lystrosaurus youngi* sp. nov.），这个种名献給研究我国水龙兽的楊鍾健教授。

PRELIMINARY REPORT ON A NEW SPECIES OF *LYSTROSAURUS* OF SINKIANG

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A collection of Permo-Triassic reptiles was discovered from Sinkiang in 1963, in which, lystrosaurs were the majority. Among the prepared specimens, there is a small skeleton of *Lystrosaurus* well preserved in hard concretions. It is a young individual and differs apparently from the other species.

This specimen occurred at Tung-Hsiao-Lung-Kou, Jimusar, from the *Lystrosaurus* zone of the early Triassic.

The skull is 122 mm in total length. It is characterized by the smooth curvature of the frontal and nasal regions, the less developed prefrontals and the flat frontals. Orbits are large, not protrude above the level of the dorsal surface of the skull. Nasal openings situate somewhat anteriorly, no prominent post-narial grooves. Alveolar regions extend downward, with undeveloped tusks.

This specimen represents a fourth species from Sinkiang and a new name——*Lystrosaurus youngi* is proposed.

The new species is quite similar in outline to *L. curvatus* in the smoothly curved facial region without mid-orbital ridge. But it shows its more primitive features in having unlifted orbits and unconcaved frontals.

To the primitive representatives——*L. primitivus* and *L. oviceps*, our species is distinguished by its more *Lystrosaurus*-like snout. The other known species from Sinkiang are distinct in having clear mid-orbital ridge, smaller orbits and posteriorly located nares.

The detail description will be given later.